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Agroterrorism as a Potential Military Threat

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Abstract

Prior to September 11, 2001, bioterrorism attacks in the United States seemed like a distant possibility rather than a reality. After September 11, 2001 the distant possibility became a real-time reality. The lethal anthrax attacks brought this reality to American soil and forever brought the possibility of this new instrument or power or threat to discussion. One type of bioterrorism that is not at the forefront however, is a type that could have a dramatic impact on our agricultural industry. If successful, an attack could produce both rippling economic and psychological affects across the U.S. Without an on-going plan and effective strategy from the government there is concern that the Department of Defense (DoD) and specifically the Armed Forces would by default become overly involved and this would have an indirect and detrimental impact on current military force readiness. To date the (DoD) is the only federal resource that appears capable of providing the comprehensive command and control (C2) as well as the rapid deployment of resources to meet the challenges from an agroterrorist event. The solution is to develop a system that could provide the necessary oversight to help detect, prevent, or manage an agroterrorist attack and the system would best be managed by a civilian agency that could provide the necessary C2 that would be required to oversee the local, state, and federal resources.

Introduction

Bioterrorism and its potential use as an instrument of power or threat from terrorist groups has dominated the discussions of leading experts since the unprecedented anthrax attacks on American soil in the fall of 2001. The deadly anthrax attacks were an additional reality shock that added to the fears that terrorist groups might use biological weapons on the domestic front in order to cause widespread panic and fear among the American population. The United States (U.S.) is currently faced with a less publicized but potentially devastating threat that, if successful, could potentially kill or injure thousands of Americans and produce a severe economic and public health crisis in the U. S. This threat called agricultural terrorism (agroterrorism) is a specific type of bioterrorism that unfortunately has not been at the forefront of headline news. Agroterrorism is a relatively affordable means for a terrorist group to undermine the U. S. economy, undermine its political system, cause national panic among Americans, and generate a lot of publicity for the terrorist organization or individuals responsible for the attack.¹ The U. S. is ill prepared to deal with an attack and not having an effective plan to help detect, prevent, and manage an attack would result in the U. S. military forces to become overly involved in many strategic and physical aspects in dealing with a large attack. This paper will outline some of the many facets of agroterrorism and based on this knowledge it is the intent of this research paper to argue that agroterrorism is an emerging issue and potential threat to our military because an extensive attack on the U.S. civilian population would have an indirect and detrimental impact on our military force readiness.

Agroterrorism Defined

A type of bioterrorism, agroterrorism is the deliberate introduction of an animal or plant disease with the goal of generating fear from the safety of food, causing economic losses, and

potential undermining social stability.² An agroterrorist attack would most likely involve agents or pathogens such as viruses, fungi, or bacteria.³ The general public usually associates bioterrorism with outbreaks of human illness such as anthrax or smallpox rather than diseases affecting animals or plants but it certainly could involve one or both.⁴ Agroterrorism is also defined in USC, section 43 of Title 18 (Animal Enterprise Terrorism) as terrorism that intentionally causes damage or loss of any property used by the animal enterprise.⁵

Agroterrorist Threat

The goal of agroterrorism is not to kill livestock or plants but rather these are the means to the end of causing economic crises in the agricultural and food industries, social unrest, and loss of confidence in the government.⁶ Human health however, would only be affected through contaminated food or if an animal pathogen is transmitted to humans.⁷ The United States (U.S.) agricultural industry is vulnerable to an agroterrorist attack in three major areas that include: the large geographic concentration of differing sectors of agriculture, the ubiquitous and highly contagious nature of many diseases and pests, and the massive size of the U.S. agricultural industry.⁸ There are also five potential specific threats of agroterrorism that include: field crops; farm animals; food items in the processing or distribution chain; market-ready foods at the wholesale or retail level, and the agricultural facilities, including processing plants, storage facilities, wholesale and retail food outlets, elements of the transportation infrastructure, and research laboratories.⁹ It is also important to note that the U.S. produces the bulk of food stock reserves globally. Much of the agricultural industry in the U.S. is highly concentrated in single species croplands, livestock feedlots, poultry houses, and major food processing and distribution centers, making it relatively easy for infection or contamination to spread rapidly.¹⁰ It is also important to note that agroterrorism attacks could also be directed against foods destined for

near-term human consumption or even against facilities such as research laboratories that are engaged in investigations that may be offensive to extremist terrorist groups or organizations.¹¹ Agroterrorism may not be a terrorist group's first choice because it lacks the shock factor that can be produced from the traditional terrorist targets but evidence that agriculture and food are potential targets came in 2002 when al Qaeda terrorist hideouts in Afghanistan were found to contain agricultural documents and manuals describing ways to make animal and plant poisons.¹² One additional category of agriculture related terrorist threat that is worth mentioning are acts of violence or vandalism conducted by animal rights extremists.¹³ Though most often not considered agricultural bioterrorism as they do not usually involve the use of biological agents, these groups may target commercial animal enterprises such as pet shops, rodeos, circuses and zoos and there is strong evidence that the activity of these groups is on the rise.¹⁴

Historical Perspective of Agroterrorism/Antecedents

Biological warfare is not new. There are many examples throughout history of lethal or debilitating biological agents being used against enemies.¹⁵ The Romans dumped bodies into wells to foul enemy drinking water supplies and in the 14th century siege of Kaffa, Tarters catapulted plague-infested bodies into the walled city to spread disease.¹⁶ Historians believe that an epidemic of smallpox that decimated Indian populations during the French and Indian War was attributable to the deliberate issue of small-pox exposed blankets by the English to the Indians.¹⁷ Agroterrorism research has also been conducted by nation-states and by non-state organizations in modern history as well.¹⁸ Nine countries have documented agricultural bioweapons programs during some part of the 20th century and four other countries are believed to have agricultural bioweapons programs.¹⁹ Although individuals or sub-state groups have used bioweapons against agricultural and food targets, only a few can be considered as terrorist in

nature.²⁰ In 1952, the Mau Mau (a terrorist insurgent group in Kenya) killed 33 head of cattle at a mission station using a local plant toxin.²¹ Additionally, in 1984, the Rajneeshee cult spread salmonella in salad bars at Oregon restaurants to influence a local election. Chemical weapons however, have been used more commonly against agricultural targets.²² During the Vietnam War, the U.S. used agent orange to destroy foliage which destroyed some crops and in 1997 Israeli settlers sprayed pesticides on grapevines in Palestinian villages that destroyed up to 17,000 metric tons of grapes.²³

The science and art of how to promulgate an agroterrorist attack is not an international secret.²⁴ This is evident by the number of countries who have worked in this field and the common assumption in today's era that agroterrorism attacks might be more attractive to terrorists because of the economic disruption, the secondary effects on humans, and the potential for deniability that might make the response or retribution less vigorous.²⁵

Economic Impact

The U.S., as a result of its natural resources and production capability, has a global impact in the agricultural industry.²⁶ U.S. agriculture generates more than \$1 trillion per year in economic activity and provides an abundant food supply for Americans and others.²⁷ If the U.S. loses its ability to maintain its agricultural exports through an act of agroterrorism, the economic losses could be large, widespread and be effected from three major areas.²⁸ First, once the initial attack occurs, certain geographical areas that have been affected by the attack could be shut down until the overall awareness and severity of the attack is known.²⁹ Second, the U.S. could lose vital export markets as other producers in the world take over these effected markets and these could place pressure on the U.S. and the balance in trade.³⁰ Lastly, an agroterrorist attack could have several consequences for current food availability.³¹ These three areas could have many effects

resulting from farms being closed, job losses, market closures, trade in balances and these losses could have devastating rippling economic effects across the U.S.³² Lessons learned from the horrific consequences of the Food and Mouth Disease outbreak in the United Kingdom (U.K.) in 2001 is one example of the impact that an outbreak can have on an economy.³³ It is estimated that the economic impact was \$1, 389 to \$4, 477 for each of the 2.6 million head of livestock (cattle, sheep, and hogs) on which money was paid in the U.K.³⁴ The impact of the outbreak exceeded the value of the animals because of the number of industries affected by the outbreak, ranging from feed suppliers to the tourist industry.³⁵ Based on the losses in the U.K., it is estimated that if a similar outbreak occurred in the U.S. that 7.5 million animals including cattle, hogs, and sheep might have to be destroyed and the resulting economic impact could exceed \$33.6 billion.³⁶ Critics might say that if one part of our agricultural industry were attacked then the U.S. could just utilize other short term food sources i.e. we could utilize all poultry products rather than beef for example, but I argue that if an attack was large enough or effected several areas of the industry at one time then the U.S. could face severe economic related issues.

While the focus in this short research paper is what economic impact that an agroterrorism attack might have on the U.S., it is important to note that a large attack could also certainly have a tremendous impact on the psyche of the U. S. population that could result in a nationwide panic and public health crisis. This psychology of terrorism and the panic and loss of confidence in the government could be worse than the economic impact itself.

Weaponization

Although agroterrorism is not new I argue that the question to be asked then is, “If agroterrorism is so easy why hasn’t it happened on a larger scale against the American population? Evidently, biological agroterrorist attacks are not easy to conduct or many terrorist

groups would have done so long ago and on a frequent basis.³⁷ Most of the attacks we have experienced today including some examples mentioned in this paper have been mainly with small-scale, limited attacks.³⁸ However, if terrorist groups could acquire the means and knowledge to produce the weapons, then a small group of terrorists could bring about an attack to a large percentage of targeted persons. Weaponization is a term that is applied to the process that is necessary to purify, properly size, stabilize, and make biological agents ideal for dissemination.³⁹ Additionally, the mechanism to deliver the biological agents is included in the definition of weaponization.⁴⁰ It may currently be difficult for terrorist groups to effectively weaponize agents but I contend that terrorist groups and rogue states may be seeking to build and develop bioweapons capabilities and this should be a cause for great concern and awareness for not only our politicians but for our military leaders as well. To answer my question at the beginning of this paragraph, “Just because it hasn’t happened in no means does it mean it won’t happen.”

In the context of this short research paper it is not feasible to identify all of the possible microorganisms, toxins, and routes that could be used to cause death or disease in humans or the animals and plants from an agroterrorist attack. Rather, I will outline critical biological agents based on the level of public health importance. In 1999, the Centers for Disease Control (CDC) along with infectious disease experts, public health experts, military intelligence, and law enforcement agencies summarized a list of biological agents and divided them into three categories.⁴¹ These categories were prioritized and based on the risk to national security because they could be easily disseminated or transmitted from person to person, could result in high mortality rates, could cause panic and social disruption, and could require special attention for public health preparedness.⁴² Category A, the highest priority, includes (but not limited to) such

agents as anthrax, plague and smallpox as these agents have the greatest potential for harm if used in an attack.⁴³ Category B includes (but not limited to) such agents as viral encephalitis, ricen, and brucellosis as this group is the second highest level or priority, and lastly category C includes (but not limited to) such agents as the West Nile fever, Hantavirus, and new and emerging diseases.⁴⁴ This is certainly an abbreviated list of all the agents under the respective categories but it is essential to underscore the importance and significance of the volumes of potential agents and the potential results that an attack from these agents could have on the U.S.

Agroterrorism as a Potential Threat to Military Readiness

I argue that an additional question that should be asked and one that I feel is the most important is, “What role and how would the U.S. military be used in the event of a massive agroterrorist attack in the U.S.? The Department of Defense (DoD) downsizing since the end of the Cold War along with two continued wars in Iraq and Afghanistan have placed extensive pressure on the active duty and reserve forces.⁴⁵ Additionally, the U.S. military is often seen as a force that is actively engaged in fighting the terrorists on the battlefield per se and it is difficult to imagine what role, if any, soldiers, sailors, airman, and marines might have in an agroterrorism event.⁴⁶ The role of DoD is to provide the military forces needed to deter war and protect the security of our country. I don’t argue if the U.S. military could have an effective role in dealing with an agroterrorism event, rather I argue can the U.S. military have an effective role based on the current operational tempo as well as any future threats or realities the military forces may be forced to encounter. The capabilities and resources that the DoD could bring to the federal government’s response would include biological and chemical detection and risk assessment through intelligence, medical and veterinary support, laboratory capabilities, logistics, decontamination assets, and general response services.⁴⁷ I argue to what extent and to what

effect would the use of these resources have on the overall mission of the U.S. military forces?

The U.S. Air Force Counterproliferation Center (CPC) was directed by the Defense Threat Reduction Agency (DTRA) to conduct a study to ask this very question to determine what role DoD would have in responding to an agroterrorism event and the following five areas were identified as areas of possible involvement.⁴⁸ 1) First and foremost the military's role in an actual response to attacks was identified as not clearly understood nor was it seen as well defined and in the past when there were limited cases the military role was limited or DoD was brought in when civilian agencies were overwhelmed, (I argue that this area speaks volumes and raises a lot of concerns); 2) If an agroterrorist event was seen as an “attack” then this could result in the attack being seen as a DoD responsibility and could result in the DoD to have a collaborative relationship with other federal agencies, (I argue that that this would result in a lack of command and control and that the military forces would assume command by default; 3) Much of the history and expectations of resource sharing and the availability of dedicated DoD assets to respond to a crisis were based on previous manning models, (I argue that our current volunteer force will not be able to dedicate an adequate number of assets to a large agroterrorist attack and continue its current operational tempo and carry out its mission); 4) A terrorist attack against crops and plants in the U.S. could be seen as national security threat and therefore DOD could be used to protect and defend, but again (I argue that this is related to the manpower issue and the magnitude of military support that could be required to respond could be overwhelming); and lastly, 5) An agroterrorist attack that would involve livestock would most certainly result in large numbers of carcasses or live animals to be destroyed in both a quick and safe manner and while DoD could provide the manpower, heavy equipment, logistics and contracting expertise to do it, (I argue that we do not want our military forces involved in the process of carcass disposal

and possible euthanasia of livestock or possible home pets in our country)⁴⁹ Additionally, I would argue that the *Posse Comitatus Act* could provide a major conflict of interest in dealing with the employment of military forces to respond to an act of agroterrorism on U.S. soil. The *Posse Comitatus Act* in its entirety states,

“Whoever, except in cases and under circumstances expressly authorized by the Constitution or Act of Congress, willfully uses any part of the Army or the Air Force as a posse comitatus or otherwise to execute the laws shall be fined under this title or imprisoned not more than two years, or both”⁵⁰

Without a rewrite of the existing act, I contend there could be extensive legal ramifications to military forces attempting to enforce law or other actions that would be required in responding to an agroterrorist attack.

Where Should We Go from Here?

Due to the multifaceted problems that an agroterrorist attack would bring I argue that the U.S. government is not prepared to deal with an attack. Reliance on DoD as the lead agent is not the answer. Rather, I argue that there should be a comprehensive civilian agency whose sole purpose is to look at the threats and challenges of agroterrorism and one that could provide the necessary centralized command and control that would be needed in order to insure effective collaboration among many local, state, and federal agencies. The comprehensive aspects of prevention, detection, and response would be the main goals of such an agency. I would argue that such an agency would need to provide the dedicated resources both in staff and training that could plan and then deal with an attack. The devastation of hurricane Katrina proved that there are no civilian agencies capable of dealing with such a large incident on U.S. soil. After the attacks of September 11, 2001, there have been numerous federal agencies that have expanded their roles and responsibilities to help protect agriculture from an attack.⁵¹ Several of these expanded roles and responsibilities have been delegated by the Department of Homeland

Security to both the Department of Health and Human Services (DHS) as well as to the United States Department of Agriculture (USDA).⁵² I argue that the USDA and even the DHS (unless there were dedicated resources) would be a poor choice to oversee an agroterrorist attack due to the large agency and scope of responsibility.

One such proposal that I identified in my research and one that I feel meets the above criteria is a system that was developed at Auburn University, titled the Consolidated American Network for Agriculture Resource Intelligence (CANARI).⁵³ This system could be coordinated through the creation of a National Agroterrorism Defense Center, as recommended in the Auburn research that could provide the necessary command and control to effectively manage all the aspects of such a system⁵⁴ This proposal was developed over five years and is comprehensive in nature in how it was developed.⁵⁵ Since the beginning of the plan the goal of CANARI was to develop a system that could detect, identify, contain, and control agricultural emergencies.⁵⁶ The intent of the system was to focus on lessening the interval between identification at the local and state levels and the eventual federal response that would be needed.⁵⁷ I agree that the federal government i.e. DoD would have some response responsibility to an attack; however, I argue that the role should be limited and that the role should be clearly identified in advance in order to provide the necessary dedicated manpower, training and funding. Rather than a top down approach from the federal government, this approach would focus on a bottom up organizational focus that would require local and state agencies to take the lead and be trained to be the first line of defense.⁵⁸ Rather than relying on the federal government and specifically DoD, such a center could manage a system that would allow for continued oversight, training, and strategic planning i.e. a pro-active rather than a re-active type approach. Rather, there should be both a table top and simulated real time exercises across the nation in response to a simulated agroterrorist attack.

Due to leadership turnover these exercises should be completed on continuous and regular basis.

I argue that the National Agroterrorism Defense Center and the CANARI system could do this.

Conclusion

It is clear that security and defense against an agroterrorist threat or attack whether natural or the result of a deliberate attack from a terrorist group should be a high priority for the future.

Without an effective plan to help detect, prevent, or manage an attack, the results could be horrific. There should be continued research in agroterrorism and emphasis in looking for a civilian system that can provide the necessary command and control oversight and direction to effectively manage a strategic plan to deal with the multi-layered outcomes that would most certainly result in response to an attack.

The use of the DoD i.e. the use of military forces should have a limited role and I offer my strongest argument that the use of our forces against an agroterrorist attack would have an indirect and detrimental impact on our military force readiness to carry out its mission to defend the nation.

¹ Graham Pearson, et al., *Biological Weapons Proliferation: Reasons for concern, course of Action*, Henry L. Stimson Center, Report 18 (1998): 30. CBACI, Bioterrorism in the United States: Threat, Preparedness and Response (November 2000), 20-24.

² Jennifer T. Ollington, ed., *Agroterrorism*, (New York, NY, 2008), 1.

³ Ibid.

⁴ Ibid.

⁵ *Animal Enterprise Terrorism, title 18 Part 1, Chapter 3, Section 43*. Available online, <http://www.law.cornel.edu/uscode>, accessed 28 November 2009.

⁶ Jennifer T. Ollington, ed., *Agroterrorism*, (New York, NY, 2008), 2.

⁷ Ibid.

⁸ Thomas Berg, Jim Davis, and Tasha Pravecek, eds., *Agroterrorist Attack DoD Roles and Responsibilities*, (Maxwell Air Force Base, AL, 2006), 2.

⁹ Henry S. Parker, *Agricultural Bioterrorism: A Federal Strategy to Meet the Threat*. (Washington D.C.: National Defense University), 12.

¹⁰ Ibid.

¹¹ Ibid.

¹² Jennifer T. Ollington, ed., *Agroterrorism*, (New York, NY, 2008), 2.

¹³ Henry S. Parker, *Agricultural Bioterrorism: A Federal Strategy to Meet the Threat*. (Washington D.C.: National Defense University), 22

¹⁴ Ibid.

¹⁵ Ibid.,16.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Jim Monke, *Agroterrorism: Threats and Preparedness* (The Library of Congress: Washington D.C.), 2004), 5.

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Jim Monke, *Agroterrorism: Threats and Preparedness* (The Library of Congress: Washington D.C.), 2004), 5.

²³ Ibid.

²⁴ Thomas Berg, Jim Davis, and Tasha Pravecek, eds., *Agroterrorist Attack DoD Roles and Responsibilities*, (Maxwell Air Force Base, AL, 2006), 3.

²⁵ Ibid.

²⁶ Thomas Berg, Jim Davis, and Tasha Pravecek, eds., *Agroterrorist Attack DoD Roles and Responsibilities*, (Maxwell Air Force Base, AL, 2006), 6.

²⁷ U. S. Government Accountability Office (GAO), *Homeland Security: Much Is Being Done to Protect Agriculture from a Terrorist Attack, but Important Challenges Remain*, GAO-05-214 March 8, 2005.

²⁸ Ibid.,7.

²⁹ Ibid.

³⁰ Ibid.

³¹ Ibid.

³² Ibid.

³³ Jim Monke, *Agroterrorism: Threats and Preparedness* (The Library of Congress: Washington D.C.), 2004), 7.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Jeffrey R. Ryan and Jan F. Glarum, *Biosecurity and Bioterrorism, Preventing Biological Threats*: (New York , NY, 2008), 18.

³⁸ Ibid.

³⁹ Ibid.,17.

⁴⁰ Ibid.

⁴¹ Ibid., 39.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Ibid.

⁴⁵ Thomas Berg, Jim Davis, and Tasha Pravecek, eds., *Agroterrorist Attack DoD Roles and Responsibilities*, (Maxwell Air Force Base, AL, 2006), 8.

⁴⁶ Ibid.

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Ibid., 11-12.

⁵⁰ John Brinkerhoff, *The Posse Comitatus Act and Homeland Security*, accessed 1 March 2010 from <http://www.homelandsecurity.org/journal/articles/brinkerhoffpossecomitatus.htm>

⁵¹ U. S. Government Accountability Office (GAO), *Homeland Security: Much Is Being Done to Protect Agriculture from a Terrorist Attack, but Important Challenges Remain*, GAO-05-214 March 8, 2005.

⁵² Ibid.

⁵³ Robert Norton, Symposium: *Agro-Terrorism: Biological Threats and Biosecurity Measures: Food Security Issues-A Potential Comprehensive Plan*. Auburn University, Auburn AL, 956-960-961.

⁵⁴ Ibid.

⁵⁵ Ibid.

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

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